PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: US EPA REGION9 Contract: SUPERFUND

Lab Code: USEPAR9 Case No.: LV2S38 SAS No.: _____ SDG No.: YK595

Instrument ID: 3400-2B GC Column ID: 30M DB-608

DATE(S) OF ANALYSIS FROM: 03/21/92 TO: 03/21/92
TIME(S) OF ANALYSIS FROM: 0811 TO: 1752
DATE OF ANALYSIS 03/22/92
TIME OF ANALYSIS 2247
EPA SAMPLE NO. (STANDARD) INDB

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC	32.05	31.97	32.13	126000000	32.03	136000000	Y	-7.9
beta-BHC	34.32	34.24	34.40	41300000	34.30	44800000	Y	-8.5
delta-BHC	35.95	35.87	36.03	124000000	35.93	132000000	Y	-6.5
gamma-BHC	33.91	33.83	33.99	112000000				
Heptachlor	35.34	35.26	35.42	95900000				
Aldrin	36.77	36.69	36.85	107000000	36.76	115000000	Y	-7.5
Hept. epoxide	39.24	39.16	39.32	92400000				
Endosulfan I	40.71	40.63	40.79	84300000				
Dieldrin	41.98	41.90	42.06	86300000				
4,4'-DDE	41.72	41.64	41.80	88900000	41.70	97700000	Y	-9.9
Endrin	43.50	43.42	43.58	65800000	43.47	61600000	Y	6.4
[illegible]osulfan II	44.22	44.14	44.30	75900000				
[illegible],4'-DDD	43.98	43.90	44.06	66800000	43.96	72300000	Y	-8.2
Endo. sulfate	46.06	45.98	46.14	74800000	46.03	65600000	Y	12.3
4,4'-DDT	45.17	45.09	45.25	71900000				
Methoxychlor	48.67	48.59	48.75	33900000				
Endrin ketone	49.21	49.13	49.29	74400000	49.18	82400000	Y	-10.8
a. Chlordane	40.62	40.54	40.70	85400000	40.60	92600000	Y	-8.4
g. Chlordane	39.94	39.86	40.02	91800000	39.91	99300000	Y	-8.2
Toxaphene	47.83	47.75	47.91	2360000				
Aroclor-1016	35.50	35.42	35.58	5850000				
Aroclor-1221	31.88	31.80	31.96	1650000				
Aroclor-1232	35.50	35.42	35.58	2560000				
Aroclor-1242	35.51	35.43	35.59	4830000				
Aroclor-1248	39.63	39.55	39.71	3150000				
Aroclor-1254	42.36	42.28	42.44	4390000				
Aroclor-1260	43.40	43.32	43.48	3640000				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed. %D must be less than or equal to 15.0% for quantitiation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRDL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

68

FORM IX PEST 8/87 Rev.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: US EPA REGION9 Contract: SUPERFUND

La. :ode: USEPAR9 Case No.: LV2S38 SAS No.: _____ SDG No.: YK595

Instrument ID: 3400-2A GC Column ID: 30M DB-5

DATE(S) OF ANALYSIS FROM: 03/21/92 TO: 03/21/92
TIME(S) OF ANALYSIS FROM: 0811 TO: 1752
DATE OF ANALYSIS 03/22/92
TIME OF ANALYSIS 2247
EPA SAMPLE NO. (STANDARD) INDB

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC	33.62	33.54	33.70	120000000	33.59	117000000	N	2.5
beta-BHC	34.73	34.65	34.81	39600000	34.71	38600000	N	2.5
delta-BHC	36.06	35.98	36.14	115000000	36.04	101000000	N	12.2
gamma-BHC	35.10	35.02	35.18	111000000				
Heptachlor	38.38	38.30	38.46	105000000				
Aldrin	39.91	39.83	39.99	95500000	39.89	93500000	N	2.1
Hept. epoxide	41.54	41.46	41.62	84400000				
Endosulfan I	43.08	43.00	43.16	78000000				
Dieldrin	44.14	44.06	44.22	77600000				
4,4'-DDE	43.84	43.76	43.92	77800000	43.81	77500000	N	0.4
Endrin	45.06	44.98	45.14	55700000	45.03	52000000	N	6.6
Endosulfan II	45.35	45.27	45.43	72100000				
'-DDD	45.51	45.43	45.59	60500000	45.48	60300000	N	0.3
Endo. sulfate	47.04	46.96	47.12	61600000	47.01	60500000	N	1.8
4,4'-DDT	47.02	46.94	47.10	73200000				
Methoxychlor	49.19	49.11	49.27	34200000				
Endrin ketone	49.02	48.94	49.10	72600000	48.98	73900000	N	-1.8
a. Chlordane	43.16	43.08	43.24	76100000	43.13	75700000	N	0.5
g. Chlordane	42.52	42.44	42.60	82300000	42.50	81800000	N	0.6
Toxaphene	47.58	47.50	47.66	1780000				
Aroclor-1016	37.61	37.53	37.69	5240000				
Aroclor-1221	33.60	33.52	33.68	1710000				
Aroclor-1232	37.60	37.52	37.68	2310000				
Aroclor-1242	37.61	37.53	37.69	4310000				
Aroclor-1248	41.76	41.68	41.84	2740000				
Aroclor-1254	44.22	44.14	44.30	3650000				
Aroclor-1260	47.26	47.18	47.34	3690000				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed. %D must be less than or equal to 15.0% for quantitiation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRDL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. I itification of such analytes is based primarily on pattern recognition.

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 06076
Project #: 62172 Loc: 09.71 Type: 71

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

DATE: May 14, 1992

SUBJECT: Review of Analytical Data

FROM: Carolyn Studeny
ESAT Senior Organic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

RECEIVED

TO: Kevin Mayer
Remedial Project Manager
South Coasr Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #03
SDG NO.:	YK595
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Pesticides/PCBs
SAMPLE NO.:	4 Soil Samples (YK595 through YK598)
COLLECTION DATE:	February 26, 27, March 6 and 7, 1992
REVIEWER:	Lisa Hanusiak ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3063

If there are any questions, please contact the reviewer.

Attachment

MAY 19 RECEIVED

TPO: [ ]For Action [X]FYI
cc: Brenda Bettencourt
Larry Zinky - URS SAC

ESATQA9A-6310/LLV2S383.RPT

Data Validation Report

Case No.: LV2S38 Memo #03
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Lisa Hanusiak, ESAT/ICF Technology, Inc.
Date: May 14, 1992

I. Case Summary

SAMPLE INFORMATION:

PEST Sample Numbers:	YK595 through YK598
Concentration and Matrix:	Low Level Soil
Analysis:	RAS Pesticides/PCBs
SOW:	2/88
Collection Date:	February 26, 27, March 6 and 7, 1992
Sample Receipt Date:	February 28 and March 10, 1992
Extraction Date:	March 4 and 10, 1992
Analysis Date:	March 15 and 22, 1992

FIELD QC:

Trip Blanks (TB):	None
Field Blanks (FB):	None
Equipment Blanks (EB):	None
Background Samples (BG):	None
Field Duplicates (D1):	None

METHOD BLANKS AND ASSOCIATED SAMPLES:

PBLK1 (03/04/92):	YK595 and YK596
PBLK1 (03/10/92):	YK597, YK598, YK598MS and YK598MSD

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifiers
2:	Sample Quantitation Limits of Target Compound List (TCL) Analytes

ADDITIONAL COMMENTS:
This report was prepared according to the EPA document "Laboratory Data Validation Functional Guidelines For Evaluating Organic Analyses," April 11, 1985.

MS - Matrix Spike; MSD - Matrix Spike Duplicate

II. Validation Summary

	VOA		BNA		PEST	
	Acceptable	Comment	Acceptable	Comment	Acceptable	Comment
HOLDING TIMES	[ ]	[ ]	[ ]	[ ]	[Y]	[C]
GC/MS TUNE/GC PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[B]
CALIBRATIONS	[ ]	[ ]	[ ]	[ ]	[Y]	[AB]
FIELD QC	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
LABORATORY BLANKS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SURROGATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
MATRIX SPIKE/DUPLICATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
INTERNAL STANDARDS	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
COMPOUND IDENTIFICATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
COMPOUND QUANTITATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SYSTEM PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[D]

N/A = Not Applicable

III. Validity and Comments

A. A percent Relative Standard Deviation (%RSD) exceeding the <10% QC limit was observed for 4,4'-DDT in the evaluation check for linearity on the confirmation column in the calibration performed March 14, 1992. It is the opinion of the reviewer that the data are not affected since no target analytes were detected in any of the samples.

B. Endrin breakdown exceeding the <20% QC limit was observed on the confirmation column in the evaluation check for 4,4'-DDT/Endrin breakdown for the analyses run March 14 through 15, 1992. It is the opinion of the reviewer that the data are not affected since endrin breakdown on the primary column was below the <20% QC limit.

C. The SW-846 technical holding times were not exceeded for any of the samples analyzed.

D. All other results are considered valid and usable for all purposes. All other quality control criteria have been met and are considered acceptable.

ANALYTICAL RESULTS
TABLE 1A*

Case No.: LV2838 Memo #03
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Lisa Hanusiak, ESAT/ICF Technology, Inc.
Date: May 14, 1992

Analysis Type: Low Level Soil Samples for RAS Pesticides/PCBs

Concentration in ug/Kg

Sample Location / Sample I.D. / Date Extracted	YK595			YK596			YK597			YK598			Method Blank PBLK 1 03/04/92			Method Blank PBLK 1 03/10/92					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND			ND			ND			ND					
Percent Solids	89 %			83 %			85 %			82 %			—			—					
Sample Location / Sample I.D.																					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com

*The requested analytes were analyzed for, but "Not Detected." The Sample Quantitation Limits are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
CRQL-Contract Required Quantitation Limits
NA-Not Analyzed, ND-Not Detected

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

TABLE 1B
DATA QUALIFIERS

NO QUALIFIERS indicates that the data are acceptable both qualitatively and quantitatively.

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #03
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Lisa Hanusiak
ESAT/ICF Technology, Inc.
Date: May 14, 1992

Pesticides/PCBs	Units, ug/Kg	Q	C
alpha-BHC	16		
beta-BHC	16		
delta-BHC	16		
gamma-BHC (Lindane)	16		
Heptachlor	16		
Aldrin	16		
Heptachlor epoxide	16		
Endosulfan I	16		
Dieldrin	32		
4,4'-DDE	32		
Endrin	32		
Endosulfan II	32		
4,4'-DDD	32		
Endosulfan sulfate	32		
4,4'-DDT	32		
Methoxychlor	160		
Endrin ketone	32		
alpha-Chlordane	160		
gamma-Chlordane	160		
Toxaphene	320		
Aroclor-1016	160		
Aroclor-1221	160		
Aroclor-1232	160		
Aroclor-1242	160		
Aroclor-1248	160		
Aroclor-1254	320		
Aroclor-1260	320		

Q - Qualifier
C - Comment

TABLE 2
(Continued)

To calculate the sample quantitation limits, multiply CRQL by the following factors:

Sample No.	Pesticides/PCBs
YK595	1.12
YK596	1.20
YK597	1.18
YK598	1.22
Method Blanks	1.00

TPO: [ ] ACTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #03 LABORATORY Region IX

SDG NO. YK595 DATA USER

SOW 2/88 REVIEW COMPLETION DATE May 14, 1992

NO. OF SAMPLES ____ WATER 4 SOIL ____ OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES			0	
2. GC-MS TUNE/GC PERFORMANCE			0	
3. INITIAL CALIBRATIONS			0	
4. CONTINUING CALIBRATIONS			0	
5. FIELD QC			F	
6. LABORATORY BLANKS			0	
7. SURROGATES			0	
8. MATRIX SPIKE/DUPLICATES			0	
9. REGIONAL QC			F	
10. INTERNAL STANDARDS			F	
11. COMPOUND IDENTIFICATION			0	
12. COMPOUND QUANTITATION			0	
13. SYSTEM PERFORMANCE			0	
14. OVERALL ASSESSMENT			0	

0 = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS:

AREAS OF CONCERN:

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

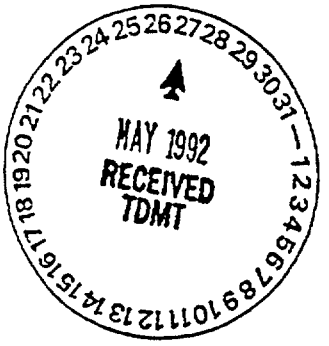
415/957-0110

URS TDMT Only TDCN: 0681
Project #: 62172 Loc: 09.71 Type: 71

ICF TECHNOLOGY INCORPORATED

MAY 22 1992

MEMORANDUM



DATE: May 19, 1992

SUBJECT: Review of Analytical Data

FROM: Carolyn Studeny
ESAT Senior Organic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #15
SDG NO.:	YK600
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Pesticides/PCBs
SAMPLE NO.:	7 Soil Samples (In Case Summary)
COLLECTION DATE:	March 12, 13 and 26, 1992
REVIEWER:	Lisa Hanusiak ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3063

If there are any questions, please contact the reviewer.

Attachment

TPO: [ ]For Action [X]FYI
cc: Brenda Bettencourt
Larry Zinky - URS SAC

Data Validation Report

Case No.: LV2S38 Memo #15
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Lisa Hanusiak, ESAT/ICF Technology, Inc.
Date: May 19, 1992

I. Case Summary

SAMPLE INFORMATION:

PEST Sample Numbers:	YK600, YK602, YK603 and YK609 through YK612
Concentration and Matrix:	Low Level Soil
Analysis:	RAS Pesticides/PCBs
SOW:	2/88
Collection Date:	March 12, 13 and 26, 1992
Sample Receipt Date:	March 13 through 28, 1992
Extraction Date:	March 18 and 30, 1992
Analysis Date:	March 22 and April 13, 1992

FIELD QC:

Trip Blanks (TB):	None
Field Blanks (FB):	None
Equipment Blanks (EB):	None
Background Samples (BG):	None
Field Duplicates (D1):	None

METHOD BLANKS AND ASSOCIATED SAMPLES:

PBLK3 (3/18/92):	YK600
PBLK4 (3/18/92):	YK602 and YK603
PBLK1 (3/30/92):	YK609
PBLK2 (3/30/92):	YK610, YK611, YK611MS, YK611MSD and YK612

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifiers
2:	Sample Quantitation Limits of Target Compound List (TCL) Analytes

ADDITIONAL COMMENTS:
This report was prepared according to the EPA document, "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," April 11, 1985.

MS - Matrix Spike; MSD - Matrix Spike Duplicate

II. Validation Summary

	VOA		BNA	
	Acceptable/Comment		Acceptable/Comment	
HOLDING TIMES	[ ]	[ ]	[ ]	[ ]
GC/MS TUNE/GC PERFORMANCE	[ ]	[ ]	[ ]	[ ]
CALIBRATIONS	[ ]	[ ]	[ ]	[ ]
FIELD QC	[ ]	[ ]	[ ]	
LABORATORY BLANKS	[ ]	[ ]	[ ]	[ ]
SURROGATES	[ ]	[ ]	[ ]	[ ]
MATRIX SPIKE/DUPLICATES	[ ]	[ ]	[ ]	[ ]
INTERNAL STANDARDS	[ ]	[ ]	[ ]	[ ]
COMPOUND IDENTIFICATION	[ ]	[ ]	[ ]	[ ]
COMPOUND QUANTITATION	[ ]	[ ]	[ ]	[ ]
SYSTEM PERFORMANCE	[ ]	[ ]	[ ]	[ ]

N/A = Not Applicable

III. Validity and Comments

A. The SW-846 technical holding times were not exc... samples analyzed.

B. All results are considered valid and usable for a... quality control criteria have been met and are consi... acceptable.

ANALYTI[illegible] RESULTS
TAE 1A*

Case No.: LV2S38 Memo #15
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Lisa Hanusiak, ESAT/ICF Technology, Inc.
Date: May 19, 1992

Analysis Type: Low Level Soil Samples for RAS Pesticides/PCBs

Concentration in ug/Kg

Sample Location / Sample I.D.	YK600			YK602			YK603			YK609			YK610			YK611			YK612		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND			ND			ND			ND			ND		
Percent Solids	96 %			84 %			87 %			86 %			86 %			86 %			84 %		
Sample Location	Method Blank			Method Blank			Method Blank			Method Blank											
Sample I D.	PBLK3			PBLK4			PBLK1			PBLK2											
Date Extracted	03/18/92			03/18/92			03/30/92			03/30/92											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND			ND											
Percent Solids	——			——			——			——											

*The requested analytes were analyzed for, but "Not Detected." The Sample Quantitation Limits are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
CRQL-Contract Required Quantitation Limits
NA-Not Analyzed, ND-Not Detected

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

TABLE 1B
DATA QUALIFIERS

NO QUALIFIERS indicates that the data are acceptable both qualitatively and quantitatively.

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #15
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Lisa Hanusiak
ESAT/ICF Technology, Inc.
Date: May 19, 1992

Pesticides/PCBs	Units, ug/Kg	Q	C
alpha-BHC	16		
beta-BHC	16		
delta-BHC	16		
gamma-BHC (Lindane)	16		
Heptachlor	16		
Aldrin	16		
Heptachlor epoxide	16		
Endosulfan I	16		
Dieldrin	32		
4,4'-DDE	32		
Endrin	32		
Endosulfan II	32		
4,4'-DDD	32		
Endosulfan sulfate	32		
4,4'-DDT	32		
Methoxychlor	160		
Endrin ketone	32		
alpha-Chlordane	160		
gamma-Chlordane	160		
Toxaphene	320		
Aroclor-1016	160		
Aroclor-1221	160		
Aroclor-1232	160		
Aroclor-1242	160		
Aroclor-1248	160		
Aroclor-1254	320		
Aroclor-1260	320		

Q - Qualifier
C - Comment

TABLE 2
(Continued)

To calculate the sample quantitation limits, multiply CRQL by the following factors:

Sample No.	Pesticides/PCBs
YK600	1.04
YK602	1.19
YK603	1.15
YK609	1.16
YK610	1.16
YK611	1.16
YK612	1.19
Method Blanks	1.00

TPO: [ ] ACTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #15 LABORATORY Region IX

SDG NO. YK600 DATA USER

SOW 2/88 REVIEW COMPLETION DATE May 19, 1992

NO. OF SAMPLES _____ WATER 7 SOIL _____ OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR _____

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES			0	
2. GC-MS TUNE/GC PERFORMANCE			0	
3. INITIAL CALIBRATIONS			0	
4. CONTINUING CALIBRATIONS			0	
5. FIELD QC			F	
6. LABORATORY BLANKS			0	
7. SURROGATES			0	
8. MATRIX SPIKE/DUPLICATES			0	
9. REGIONAL QC			F	
10. INTERNAL STANDARDS			F	
11. COMPOUND IDENTIFICATION			0	
12. COMPOUND QUANTITATION			0	
13. SYSTEM PERFORMANCE			0	
14. OVERALL ASSESSMENT			0	

0 - No problems or minor problems that do not affect data usability.
X - No more than about 5% of the data points are qualified as either estimated or unusable.
M - More than about 5% of the data points are qualified as estimated.
Z - More than about 5% of the data points are qualified as unusable.
F - Not applicable.

TPO ACTION ITEMS: _____

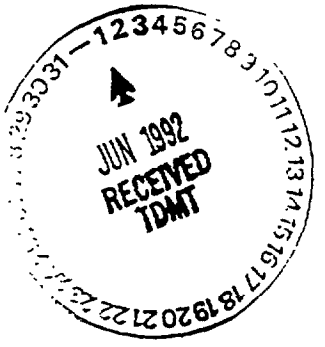
AREAS OF CONCERN: _____

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 0699
Project #: 62172 Loc: 09.71 Type: 71

ICF TECHNOLOGY INCORPORATED



MEMORANDUM

DATE: May 27, 1992

SUBJECT: Review of Analytical Data

FROM: Carolyn Studeny
ESAT Senior Organic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #20
SDG NO.:	YK613
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Pesticides/PCBs
SAMPLE NO.:	YK613 through YK617
COLLECTION DATE:	April 2, 1992
REVIEWER:	Barbara Gordon ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3051

If there are any questions, please contact the reviewer.

Attachment

TPO: [ ]For Action [X]FYI

cc: Brenda Bettencourt
Larry Zinky - URS SAC

Data Validation Report

Case No.: LV2S38 Memo #20
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Barbara Gordon, ESAT/ICF Technology, Inc.
Date: May 27, 1992

I. Case Summary

SAMPLE INFORMATION:

PEST Sample Numbers:	YK613 through YK617
Concentration and Matrix:	Low Level Soil Samples
Analysis:	RAS Pesticides/PCBs
SOW:	2/88
Collection Date:	April 2, 1992
Sample Receipt Date:	April 6, 1992
Extraction Date:	April 9, 1992
Analysis Date:	May 11 and 12, 1992

FIELD QC:

Trip Blanks (TB):	None
Field Blanks (FB):	None
Equipment Blanks (EB):	None
Background Samples (BG):	None
Field Duplicates (D1):	None

METHOD BLANK AND ASSOCIATED SAMPLES:

PBLK1:	YK613 through YK617, YK613MS and YK613MSD

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifiers
2:	Sample Quantitation Limits of Target Compound List (TCL) Analytes

ADDITIONAL COMMENTS:

This report was prepared according to the EPA document, "Laboratory Data Validation Functional Guidelines for Organic Analyses," April 11, 1985

MS - Matrix Spike; MSD - Matrix Spike Duplicate

II. Validation Summary

	VOA		BNA		PEST	
	Acceptable	Comment	Acceptable	Comment	Acceptable	Comment
HOLDING TIMES	[ ]	[ ]	[ ]	[ ]	[Y]	[B]
GC/MS TUNE/GC PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
CALIBRATIONS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
FIELD QC	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
LABORATORY BLANKS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SURROGATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
MATRIX SPIKE/DUPLICATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
INTERNAL STANDARDS	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
COMPOUND IDENTIFICATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
COMPOUND QUANTITATION	[ ]	[ ]	[ ]	[ ]	[Y]	[A]
SYSTEM PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[C]

N/A = Not Applicable

III. Validity and Comments

A. The results reported in Table 1A for the following analytes are considered as estimates (J) and usable for limited purposes only:

- All results below the Contract Required Quantitation Limits (denoted with an "L" qualifier)

Results below the Contract Required Quantitation Limits (CRQL) are considered to be qualitatively acceptable but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. The SW-846 technical holding time was not exceeded for any of the samples analyzed.

C. All other results are considered valid and usable for all purposes. All quality control criteria have been met and are considered acceptable.

ANAL JAL RESULTS
TABLE 1A*

Case No.: LV2838 Memo #20
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Barbara Gordon, ESAT/ICF Technology, Inc.
Date: May 27, 1992

Analysis Type: Low Level Soil Samples for RAS Pesticides/PCBs

Concentration in ug/Kg

Sample Location / Sample I.D.	YK613			YK614			YK615			YK616			YK617			Method Blank PBLK1			CRQL		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dieldrin	33 U			1 L	J	A	34 U			36 U			37 U			32 U			32		
4,4'-DDE	33 U			4 L	J	A	34 U			36 U			37 U			32 U			32		
4,4'-DDT	33 U			1 L	J	A	34 U			36 U			37 U			32 U			32		
Percent Solids	96 %			92 %			95 %			87 %			84 %								

*The other requested analytes were analyzed for, but "Not Detected". The Sample Quantitation Limits are listed in Table 2.

Val-Validity Refer to Data Qualifiers in Table 1B.

Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.

CRQL-Contract Required Quantitation Limits

NA-Not Analyzed

D1, D2, etc.-Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Travel Blank

BG-Background Sample

TABLE 1B
DATA QUALIFIERS

NO QUALIFIERS indicates that the data are acceptable both qualitatively and quantitatively.

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #20
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Barbara Gordon
ESAT/ICF Technology, Inc.
Date: May 27, 1992

Pesticides/PCBs	Units, ug/Kg	Q	C
alpha-BHC	16		
beta-BHC	16		
delta-BHC	16		
gamma-BHC (Lindane)	16		
Heptachlor	16		
Aldrin	16		
Heptachlor epoxide	16		
Endosulfan I	16		
Dieldrin	32		
4,4'-DDE	32		
Endrin	32		
Endosulfan II	32		
4,4'-DDD	32		
Endosulfan sulfate	32		
4,4'-DDT	32		
Methoxychlor	160		
Endrin ketone	32		
alpha-Chlordane	160		
gamma-Chlordane	160		
Toxaphene	320		
Aroclor-1016	160		
Aroclor-1221	160		
Aroclor-1232	160		
Aroclor-1242	160		
Aroclor-1248	160		
Aroclor-1254	320		
Aroclor-1260	320		

Q - Qualifier
C - Comment

TABLE 2
(cont'd)

To calculate the sample quantitation limits, multiply CRQL by the following factors:

Sample No.	Pesticides/PCBs
YK613	1.04
YK614	1.09
YK615	1.05
YK616	1.15
YK617	1.19
METHOD BLANK	1.00

Data Validation Report

Case No.: LV2S38 Memo #24
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: July 10, 1992

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYH661, MYH662, MYH663, MYH664, and MYH665

COLLECTION DATE: April 2, 1992
SAMPLE RECEIPT DATE: April 6, 1992

CONCENTRATION & MATRIX: 5 Low concentration soil samples

FIELD QC: Field Blanks (FB): None
Equipment Blanks (EB): None
Background Samples (BG): None
Duplicates (D1): None

LABORATORY QC: Matrix Spike: MYH661
Duplicates: MYH661
ICP Serial Dilution: MYH661

ANALYSIS: RAS Metals

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP Metals	April 20, 1992	May 6, 1992
GFAA: Arsenic	April 20, 1992	May 27, 1992
Lead	April 20, 1992	May 28, 1992
Selenium	April 20, 1992	May 18, 1992
Thallium	April 20, 1992	May 15, 1992
Mercury	April 28, 1992	April 28, 1992
Percent Solids	Not Applicable	April 19, 1992

ADDITIONAL COMMENT:

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the EPA Contract Laboratory Program Inorganic Statement of Work for March 1990 and the EPA draft document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses" October, 1989.

II. Validation Summary

The data were evaluated based on the following parameters:

Parameter	Acceptable	Comment
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	E
3. Calibration	No	B
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
5. ICP Interference Check Sample Analysis	Yes	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	No	C
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	N/A	
10. GFAA QC Analysis	No	D
a. Duplicate Injections		
b. Analytical Spikes		
11. ICP Serial Dilution Analysis	Yes	
12. Sample Quantitation	Yes	A
13. Sample Result Verification	Yes	F

N/A = Not Applicable

III. Validity and Comments

A. The results reported in Table 1A for the following analytes are considered as estimates (J) and are usable for limited purposes only.

- All results above the Method Detection Limit but below the Contract Required Detection Limit (denoted with an "L" qualifier)

Results above the Method Detection Limit (MDL) but below the Contract Required Detection Limit (CRDL) are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

B. The following results are considered usable for limited purposes because of calibration problems. The results are considered estimates and are flagged "J" in Table 1A.

- Mercury in all of the samples and the Lab Blank

An insufficient number of calibration standards was used in the analysis of the samples for mercury. No standards lower than 5.0 µg/L were analyzed during mercury calibration by the automated cold vapor method. Method 245.2 CLP-M requires the analysis of standards containing 0.0, 0.2, 0.5, 1.0, 5.0, 10.0, 15.0, and 20.0 µg/L. The laboratory measured standards containing 0.0, 5.0, 10.0, and 15.0 µg/L. The 5.0 µg/L standard is 25 times greater than the IDL and the CRDL. The results for mercury in all of the samples and the Lab Blank are estimated because of this analytical deficiency.

C. The following results are considered usable for limited purposes because of accuracy problems. The results are considered estimates and are flagged "J" in Table 1A.

- Antimony in all of the samples

The matrix spike recovery result for antimony in QC sample number MYH661 did not meet the 75-125% criteria for accuracy as listed below. The possible percent bias for antimony is also presented below.

Analyte	MYH661 % Recovery	MYH661 % Bias
Antimony	54.1	-45.9

The results reported for antimony in all of the samples are considered quantitatively questionable and may be biased low.

D. The following results are considered usable for limited purposes because of accuracy problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Selenium in samples MYH662 and MYH663

Selenium was analyzed by the Graphite Furnace Atomic Absorption (GFAA) technique, which requires that a post-digest analytical spike be performed for each sample to establish the accuracy of the individual analytical determination. The post-digestion spike recovery results for selenium in the samples listed above did not meet the 85-115% criteria for accuracy as listed below. The possible percent bias for selenium is also presented below.

Analyte	Sample #	% Recovery	% Bias
Selenium	MYH662	62.0	-38.0
	MYH663	75.0	-25.0

The post-digestion spike recovery results for selenium in the samples listed above show an analytical deficiency. The results reported may be biased low and false negatives may exist.

E. Due to limited information concerning holding time criteria for soil samples, the 40 CFR 136 holding time criteria for water samples is applied to the soil analyses. The 40 CFR 136 technical holding times were not exceeded for any of the samples. There were no holding time problems.

F. All of the other results are considered valid and usable for all purposes. All QC parameters, other than those discussed above, have been met and are considered acceptable.

ANALYTIC RESULTS
TABLE 1A

Case No.: LV2S38 Memo #24
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: July 10, 1992

Analysis Type: Low Concentration Soil Samples for RAS Total Metals

Concentration in mg/Kg

Sample Location / Sample I.D.	SMW06-01C MYH661			SSS01-01 MYH662			SSS02-01 MYH663			SMW06-02C MYH664			SMW06-03C MYH665			LAB BLANK			MDL		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	4580			9270			7300			3930			5130			10.0 U			10.0		
Antimony	5.9 U	J	C	6.1 U	J	C	6.1 U	J	C	6.4 U	J	C	6.7 U	J	C	5.6 U			5 6		
Arsenic	0.44 L	J	A	0.28 U			0.30 L	J	A	0.71 L	J	A	0.64 L	J	A	0.26 U			0.26		
Barium	23.6 L	J	A	48.0			36.1 L	J	A	24.4 L	J	A	26.8 L	J	A	5.9 U			5.9		
Beryllium	0.16 L	J	A	0.38 L	J	A	0.28 L	J	A	0.18 L	J	A	0.24 L	J	A	0.13 U			0.13		
Cadmium	0 50 U			0.52 U			0.52 U			0.55 U			0.57 U			0.48 U			0.48		
Calcium	4270			4050			2680			2500			5510			105 U			105		
Chromium	7.0			14.2			9.2			6.8			8.2			0.67 L	J	A	0.60		
Cobalt	5.2 L	J	A	8.3 L	J	A	6.9 L	J	A	3.3 L	J	A	4.4 L	J	A	1.8 U			1.8		
Copper	11.5			11.9			8.4			14.9			11.4			0.74 U			0.74		
Iron	7560			15100			11700			7540			8440			8.1 U			8.1		
Lead	1.9			4.6			2 4			2.6			3 0			0.20 U			0 20		
Magnesium	2890			5300			3930			2460			2910			121 U			121		
Manganese	159			237			169			129			153			0.49 U			0.48		
Mercury	0.10 U	J	B	0.11 U	J	B	0.11 U	J	B	0.12 U	J	B	0.12 U	J	B	0.10 U	J	B	0.10		
Nickel	10.1			10.7			8.4 L	J	A	5.9 L	J	A	8.8 L	J	A	2.5 U			2.5		
Potassium	1030 L	J	A	3120			2370			798 L	J	A	963 L	J	A	149 U			149		
Selenium	0.27 U			0.28 U	J	D	0.28 U	J	D	0.30 U			0.31 U			0.26 U			0.26		
Silver	0.83 U			0.86 U			0.86 U			0.91 U			0.94 U			0.79 U			0.79		
Sodium	94.7 U			113 L	J	A	98.0 U			153 L	J	A	185 L	J	A	90.8 U			90.8		
Thallium	0.13 L	J	A	0.15 L	J	A	0.13 U			0.14 U			0.14 L	J	A	0.12 U			0.12		
Vanadium	12.9			32.0			23.6			12.7			14.3			1.7 U			1.7		
Zinc	18.5			35.9			26.5			19.4			19.6			2.6 U			2.6		
Percent Solids	95.9 %			92.0 %			92.7 %			87.4 %			84.6 %			—			—		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background
CRDL-Contract Required Detection Limit

ANALYTIC RESULTS
TABLE 1A

Case No.: LV2838 Memo #24
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: July 10, 1992

Analysis Type: Low Concentration Soil Samples for RAS Total Metals

Concentration in mg/Kg

Sample Location Sample I.D.	CRDL																			
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	40.0																			
Antimony	12.0																			
Arsenic	2.0																			
Barium	40.0																			
Beryllium	1.0																			
Cadmium	1.0																			
Calcium	1000																			
Chromium	2.0																			
Cobalt	10.0																			
Copper	5.0																			
Iron	20 0																			
Lead	0.60																			
Magnesium	1000																			
Manganese	3.0																			
Mercury	0.10																			
Nickel	8.0																			
Potassium	1000																			
Selenium	1.0																			
Silver	2 0																			
Sodium	1000																			
Thallium	2.0																			
Vanadium	10 0																			
Zinc	4 0																			

Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background
CRDL-Contract Required Detection Limit

TPO: [ ] ACTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #20 LABORATORY Region IX, Las Vegas

SDG NO. YK613 DATA USER _____

SOW 2/88 REVIEW COMPLETION DATE May 27, 1992

NO. OF SAMPLES _____ WATER 5 SOIL _____ OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR _____

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES			0	
2. GC-MS TUNE/GC PERFORMANCE			0	
3. INITIAL CALIBRATIONS			0	
4. CONTINUING CALIBRATIONS			0	
5. FIELD QC			F	
6. LABORATORY BLANKS			0	
7. SURROGATES			0	
8. MATRIX SPIKE/DUPLICATES			0	
9. REGIONAL QC			F	
10. INTERNAL STANDARDS			F	
11. COMPOUND IDENTIFICATION			0	
12. COMPOUND QUANTITATION			0	
13. SYSTEM PERFORMANCE			0	
14. OVERALL ASSESSMENT			0	

0 = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS: _____

AREAS OF CONCERN: _____

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 0942
Project #: 62172 Loc: 09.72 Type: 72

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

DATE: July 10, 1992

SUBJECT: Review of Analytical Data

FROM: Victoria Taylor
ESAT Senior Analytical Chemist
ICF Technology, Inc.

THROUGH: Roseanne Sakamoto
Environmental Protection Specialist
Quality Assurance Management Section (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #24
SDG NO.:	MYH661
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Metals
SAMPLE NO.:	MYH661, MYH662, MYH663, MYH664, and MYH665
COLLECTION DATE:	April 2, 1992
REVIEWER:	Jack D. Sheets ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3061

If there are any questions, please contact the reviewer.

Attachment

cc: Brenda Bettencourt, Chief, Laboratory Support Section (P-3-1)
Larry Zinky - URS SAC
Steve Remaley, TPO USEPA Region IX
[ ] FYI [X] For Attention [ ] For Action

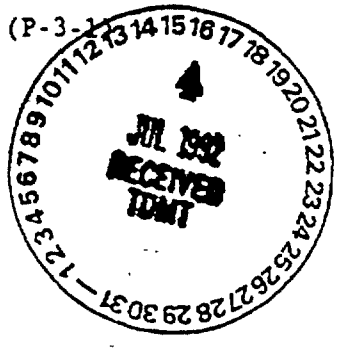


TABLE 1B
DATA QUALIFIERS

NO QUALIFIER indicates that the data are acceptable both qualitatively and quantitatively.

U Indicates that the parameter is not detected above the concentration listed. (Usually the Instrument Detection Limit for waters and the Method Detection Limit for soils with a correction for percent solids).

L Indicates results which fall between the Instrument Detection Limit for waters or the Method Detection Limit for soils and the Contract Required Detection Limit. Results are considered estimates and are usable for limited purposes.

J Results are considered estimates and are usable for limited purposes. The results are qualitatively acceptable.

R Results are rejected and are unusable for any purposes.

TPO: [ ] FYI [X] For Attention [ ] For Action Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #24 LABORATORY Region IX, Las Vegas

SDG NO. MYH661 DATA USER

SOW 3/90 REVIEW COMPLETION DATE July 10, 1992

NO. OF SAMPLES ____ WATER 5 SOIL ____ OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	ICP	AA	Hg	Other
1. HOLDING TIMES	O	O	O	
2. INITIAL CALIBRATIONS	O	O	M	
3. CONTINUING CALIBRATIONS	O	O	O	
4. FIELD AND EQUIPMENT BLANKS	F	F	F	
5. LABORATORY BLANKS	O	O	O	
6. ICP INTERFERENCE CHECK SAMPLE (ICS)	O			
7. LABORATORY CONTROL SAMPLE (LCS)	O	O	O	
8. LABORATORY DUPLICATE ANALYSIS	O	O	O	
9. MATRIX SPIKE ANALYSIS	M	X	O	
10. METHOD OF STANDARD ADDITION (MSA)		F		
11. ICP SERIAL DILUTION	O			
12. SAMPLE VERIFICATION	O	O	O	
13. REGIONAL QC	F	F	F	
14. OVERALL ASSESSMENT	M	X	M	

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS: None.
TPO ATTENTION ITEM: An insufficient number of mercury calibration standards were analyzed.
AREAS OF CONCERN: The selenium analytical spike for the LCS was reported at 72% recovery.

160 Spear Street Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 0705
Project #: 62172 Loc: 09.72 Type: 72

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

DATE: June 12, 1992

SUBJECT: Review of Analytical Data

FROM: Margie D. Weiner for MW
ESAT Inorganic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #10
SDG NO.:	MYH648
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Metals
SAMPLE NO.:	MYH648, MYH650, MYH651 and MYH657 through MYH660
COLLECTION DATE:	March 12, 13 and 26, 1992
REVIEWER:	Jack D. Sheets ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3061

If there are any questions, please contact the reviewer.

Attachment

cc: Brenda Bettencourt, Chief, Laboratory Support Section (P-3-1)
Larry Zinky - URS SAC
Steve Remaley, TPO USEPA Region IX TPO: [X]For Action [ ]FYI

ESATQA9A-6475/JLVS3810.RPT

Data Validation Report

Case No.: LV2S38 Memo #10
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: June 12, 1992

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYH648, MYH650, MYH651 and MYH657 through MYH660

COLLECTION DATE: March 12, 13 and 26, 1992
SAMPLE RECEIPT DATE: March 13, 17, 27 and 28, 1992

CONCENTRATION & MATRIX: 7 Low concentration soil samples

FIELD QC: Field Blanks (FB): None
Equipment Blanks (EB): None
Background Samples (BG): None
Duplicates (D1): None

LABORATORY QC: Matrix Spike: MYH659
Duplicates: MYH659
ICP Serial Dilution: MYH659

ANALYSIS: RAS Metals

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP Metals	April 14, 1992	April 14, 1992
GFAA: Arsenic	April 14, 1992	April 15, 1992
Lead	April 14, 1992	April 16, 1992
Selenium	April 14, 1992	April 16, 1992
Thallium	April 14, 1992	April 15, 1992
Mercury	March 31, 1992	March 31, 1992
Percent Solids	Not Applicable	March 31, 1992

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the EPA Contract Laboratory Program Inorganic Statement of Work for March 1990 and the EPA draft document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses" October, 1989.

II. Validation Summary

The data were evaluated based on the following parameters:

Parameter	Acceptable	Comment
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	G
3. Calibration	No	A
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
5. ICP Interference Check Sample Analysis	Yes	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	No	C
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	N/A	
10. GFAA QC Analysis	No	D,E
a. Duplicate Injections		
b. Analytical Spikes		
11. ICP Serial Dilution Analysis	Yes	
12. Sample Quantitation	No	B,F
13. Sample Result Verification	Yes	H

N/A = Not Applicable

III. Validity and Comments

A. The following detection limits are rejected and unusable for any purpose because of calibration problems. The detection limits are flagged "R" in Table 1A.

- Mercury in all of the samples and the Lab Blank

An insufficient number of calibration standards was used in the analysis of the samples for mercury. No standards lower than 5.0 µg/L were analyzed during mercury calibration by the automated cold vapor method. Method 245.2 CLP-M requires the analysis of standards containing 0.0, 0.2, 0.5, 1.0, 5.0, 10.0, 15.0, and 20.0 µg/L. The laboratory measured standards containing 0.0, 5.0, 10.0, and 15.0 µg/L. The 5.0 µg/L standard is 25 times greater than the IDL and the CRDL. This deficiency is exemplified by the reported zero percent recovery of the CRA standard. Although there are no acceptance criteria for the CRA standard, a zero percent recovery indicates a problem with the mercury analysis near the detection limit. The detection limits for mercury in all of the samples and the Lab Blank are rejected because of these analytical deficiencies.

B. The results reported in Table 1A for the following analytes are considered as estimates (J) and are usable for limited purposes only.

- All results above the Method Detection Limit but below the Contract Required Detection Limit (denoted with an "L" qualifier)

Results above the Method Detection Limit (MDL) but below the Contract Required Detection Limit (CRDL) are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

C. The following results are considered usable for limited purposes because of accuracy problems. The results are considered estimates and are flagged "J" in Table 1A.

- Arsenic in all of the samples

The matrix spike recovery result for arsenic in QC sample number MYH659 did not meet the 75-125% criteria for accuracy as listed below. The possible percent bias for arsenic is also presented below.

Analyte	MYH659 % Recovery	MYH659 % Bias
Arsenic	64.2	-35.8

The results reported for arsenic in all of the samples are considered quantitatively questionable and may be biased low.

D. The following results are considered usable for limited purposes because of accuracy problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Arsenic in samples MYH648, MYH650, MYH651 and MYH657 through MYH659
- Lead in the Lab Blank
- Thallium in sample MYH648

Arsenic and thallium were analyzed by the Graphite Furnace Atomic Absorption (GFAA) technique, which requires that a post-digest analytical spike be performed for each sample to establish the accuracy of the individual analytical determination. The post-digestion spike recovery results for arsenic and thallium in the samples listed above did not meet the 85-115% criteria for accuracy as listed below. The possible percent bias for each analyte is also presented below.

Analyte	Sample #	% Recovery	% Bias
Arsenic	MYH648	53.4	-46.6
	MYH650	57.3	-42.7
	MYH651	52.6	-47.4
	MYH657	61.5	-38.5
	MYH658	66.5	-33.5
	MYH659	79.0	-21.0
Lead	Lab Blank	76.0	-24.0
Thallium	MYH648	83.5	-16.5

The post-digestion spike recovery results for arsenic, lead and thallium in the samples listed above show an analytical deficiency. The results reported may be biased low and false negatives may exist. According to page E-25 of the 3/90 CLP Statement of Work (SOW), if the preparation blank analytical spike is out of control (85-115%), the spiking solution must be verified by respiking and rerunning the preparation blank once. If the preparation blank analytical spike recovery is still out of control, correct the problem and reanalyze all analytical samples associated with that blank. The lab blank for lead analysis was not respiked and rerun.

E. The following result is considered usable for limited purposes because of accuracy problems. The result is considered an estimate and is flagged "J" in Table 1A.

- Arsenic in sample MYH660

The Method of Standard Addition (MSA) correlation coefficient for arsenic in sample number MYH660 did not meet the $\geq$0.995 criteria for accuracy as shown below.

Sample Number	Analyte	Correlation Coefficient
MYH660	Arsenic	0.994

The result reported for arsenic in sample number MYH660 is considered quantitatively questionable.

F. The following result is considered usable for limited purposes because of sample quantitation problems. The result is considered as an estimate and is flagged "J" in Table 1A.

- Iron in sample MYH658

The result reported for iron in sample number MYH658 is considered quantitatively questionable. The measured concentration of the prepared sample was greater than the ICP linear range listed on Form 12. The result exceeded the listed linear range by less than 10%. The sample was not diluted for reanalysis.

G. Due to limited information concerning holding time criteria for soil samples, the 40 CFR 136 holding time criteria for water samples is applied to the soil analyses. The 40 CFR 136 technical holding times were not exceeded for any of the samples. There were no holding time problems.

H. All of the other results are considered valid and usable for all purposes. All QC parameters, other than those discussed above, have been met and are considered acceptable.

ANALYTICAL RESULTS
TAF 1A

Case No.: LV2S38 Memo #10
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: June 12, 1992

Analysis Type: Low Concentration Soil Samples for RAS Metals Analyses

Concentration in mg/Kg

Sample Location / Sample I.D.	SMW02-02C MYH648			SMW03-01C MYH650			SMW03-03C MYH651			SMW02-04C MYH657			SMW02-05C MYH658			SMW02-06C MYH659			SMW02-09C MYH660		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	4680			3480			6340			3490			15000			13700			15100		
Antimony	5.9 U			6.5 U			6.4 U			7.1 U			9.4 L	J	B	6.7 U			6.5 U		
Arsenic	1.00 L	J	BC	0.37 L	J	BC	0.88 L	J	BC	0.68 L	J	BC	1.4 L	J	BC	0.59 L	J	BC	6.5	J	CE
Barium	25.5 L	J	B	20.4 L	J	B	45.3			18.0 L	J	B	65.6			58.0			58.8		
Beryllium	0.19 L	J	B	0.21 L	J	B	0.25 L	J	B	0.19 L	J	B	0.64 L	J	B	0.49 L	J	B	0.51 L	J	B
Cadmium	0.50 U			0.55 U			0.54 U			0.61 U			0.56 U			0.57 U			0.55 U		
Calcium	2330			2640			4690			4340			4170			3920			4760		
Chromium	6 3			5.1			9.2			5.0			23.9			25.9			32.3		
Cobalt	3.6 L	J	B	2.7 L	J	B	5.6 L	J	B	2.5 L	J	B	10.8 L	J	B	10.5 L	J	B	9.7 L	J	B
Copper	7.6			10.2			16.8			7.5			21.1			16.6			11.8		
Iron	7510			5840			10100			7320			25600	J	F	19600			18700		
Lead	2.8			3.2			3.5			2.7			4.5			3.9			3.9		
Magnesium	2630			1850			3720			2120			7750			6990			7430		
Manganese	128			133			210			134			248			217			218		
Mercury	0.10 U	R	A	0.11 U	R	A	0.11 U	R	A	0.13 U	R	A	0.12 U	R	A	0.12 U	R	A	0.12 U	R	A
Nickel	5.6 L	J	B	3.9 L	J	B	8.1 L	J	B	4.9 L	J	B	14.1			15.7			12.7		
Potassium	1020 L	J	B	608 L	J	B	1300			503 L	J	B	4170			4050			4520		
Selenium	0.27 U			0.30 U			0.30 U			0.33 U			0.31 U			0.31 U			0.30 U		
Silver	0.82 U			0.91 U			0.90 U			1.0 U			0.93 U			0.94 U			0.91 U		
Sodium	94.3 U			249 L	J	B	154 L	J	B	379 L	J	B	179 L	J	B	202 L	J	B	156 L	J	B
Thallium	0.12 U	J	D	0.14 U			0.14 U			0.15 U			0.19 L	J	B	0.19 L	J	B	0.18 L	J	B
Vanadium	13.3			9.5 L	J	B	16 9			11.0 L	J	B	54.5			41.0			37.0		
Zinc	18.7			14.3			22.9			15.3			48.7			45.6			44.2		
Percent Solids	96.3 %			86.9 %			88.6 %			79.2 %			85.6 %			84.6 %			86.8 %		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background
CRDL-Contract Required Detection Limit

TABLE 1A

Case No. LV2S38 Memo #10
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: June 12, 1992

Analysis Type: Low Concentration Soi amples for RAS Metals Analyses

Concentration in mg/Kg

Sample Location Sample I.D.	LAB BLANK			MDL			CRDL																	
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	10.0 U			10.0			40.0																	
Antimony	5.6 U			5.6			12.0																	
Arsenic	0.25 U			0.25			2.0																	
Barium	5.9 U			5.9			40.0																	
Beryllium	0.13 U			0.13			1.0																	
Cadmium	0 48 U			0.48			1.0																	
Calcium	105 U			105			1000																	
Chromium	0 60 U			0.60			2.0																	
Cobalt	1.8 U			1.8			10.0																	
Copper	2 42 L	J	B	0.74			5.0																	
Iron	8.1 U			8.1			20.0																	
Lead	0 20 U	J	D	0.20			0.60																	
Magnesium	121 U			121			1000																	
Manganese	0 49 U			0.49			3.0																	
Mercury	0.10 U	R	A	0.10			0.10																	
Nickel	2.5 U			2.5			8.0																	
Potassium	149 U			149			1000																	
Selenium	0.26 U			0.26			1.0																	
Silver	0.79 U			0.79			2.0																	
Sodium	90.8 U			90.8			1000																	
Thallium	0.12 U			0.12			2.0																	
Vanadium	1.7 U			1.7			10.0																	
Zinc	2.6 U			2.6			4.0																	

Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background
CRDL-Contract Required Detection Limit

TABLE 1B
DATA QUALIFIERS

NO QUALIFIER indicates that the data are acceptable both qualitatively and quantitatively.

U Indicates that the parameter is not detected above the concentration listed. (Usually the Instrument Detection Limit for waters and the Method Detection Limit for soils with a correction for percent solids).

L Indicates results which fall between the Instrument Detection Limit for waters or the Method Detection Limit for soils and the Contract Required Detection Limit. Results are considered estimates and are usable for limited purposes.

J Results are considered estimates and are usable for limited purposes. The results are qualitatively acceptable.

R Results are rejected and are unusable for any purposes.

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415/957-0110

URS TDMT Only TDCN: 0675
Project #: 6217 Loc: 09.72 Type: 72

ICF TECHNOLOGY INCORPORATED

MAY 1 4 1992

URS CONSULTANTS, INC.

MAY 13 1992

RECEIVED

MEMORANDUM

DATE: May 12, 1992

SUBJECT: Review of Analytical Data

FROM: Victoria Taylor
ESAT Senior Analytical Chemist
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #05
SDG NO.:	MYH643
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Metals
SAMPLE NO.:	MYH643 through MYH646
COLLECTION DATE:	February 26, 27, March 6 and 7, 1992
REVIEWER:	Jack D. Sheets ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3061

If there are any questions, please contact the reviewer.

Attachment

MAY 1992 RECEIVED TDMT

TPO: [ ]For Action [X]FYI

cc: Brenda Bettencourt, Chief, Laboratory Support Section (P-3-1)
Larry Zinky - URS SAC

ESATQA9A-6291/JLV2S385.RPT

Data Validation Report

Case No.: LV2S38 Memo #05
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: May 12, 1992

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYH643 through MYH646

COLLECTION DATE: February 26, 27, March 6 and 7, 1992
SAMPLE RECEIPT DATE: February 28, and March 10, 1992

CONCENTRATION & MATRIX: 4 Low concentration soil samples

FIELD QC: Field Blanks (FB): None
Equipment Blanks (EB): None
Background Samples (BG): None
Duplicates (D1): None

LABORATORY QC: Matrix Spike: MYH646
Duplicates: MYH646
ICP Serial Dilution: MYH646

ANALYSIS: RAS Metals

Analyte		Sample Preparation and Digestion Date	Analysis Date
ICP Metals		March 18, 1992	March 23, 1992
GFAA:	Arsenic	March 18, 1992	April 6, 1992
	Lead	March 18, 1992	April 3, 1992
	Selenium	March 18, 1992	April 6, 1992
	Thallium	March 18, 1992	April 3, 1992
Mercury		March 24, 1992	March 24, 1992
Percent Solids		Not Applicable	March 20, 1992

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the EPA Contract Laboratory Program Inorganic Statement of Work for March 1990 and the EPA draft document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses" October, 1989.

II. Validation Summary

The data were evaluated based on the following parameters:

Parameter	Acceptable	Comment
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	F
3. Calibration	No	B
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
5. ICP Interference Check Sample Analysis	Yes	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	Yes	
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	N/A	
10. GFAA QC Analysis	No	D,E
a. Duplicate Injections		
b. Analytical Spikes		
11. ICP Serial Dilution Analysis	No	C
12. Sample Quantitation	No	A
13. Sample Result Verification	Yes	G

N/A = Not Applicable

III. Validity and Comments

A. The results reported in Table 1A for the following analytes are considered as estimates (J) and are usable for limited purposes only.

- All results above the Method Detection Limit but below the Contract Required Detection Limit (denoted with an "L" qualifier)

Results above the Method Detection Limit (MDL) but below the Contract Required Detection Limit (CRDL) are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

B. The following results are considered usable for limited purposes because of calibration problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Mercury in all of the samples and the Lab Blank

An insufficient number of calibration standards were used in the analysis of the samples for mercury. No standards lower than 5.0 µg/L were analyzed in the calibration for mercury analysis by the

automated cold vapor technique. Method 245.2 CLP-M specifies the analysis of standards containing 0.0, 0.2, 0.5, 1.0, 5.0, 10.0, 15.0, and 20.0 µg/L. The laboratory used standards containing 0.0, 5.0, 10.0, and 15.0 µg/L. The 5.0 µg/L standard is 25 times greater than the IDL and the CRDL. The effect of this calibration inadequacy on the data is unknown. The results for mercury in all of the samples and the Lab Blank are considered quantitatively questionable because of this analytical deficiency.

The percent recovery result for the mercury CRA standard was calculated incorrectly on Form 2B. Results below the IDL (0.2 µg/L) should be treated as 0.0 µg/L when calculating the percent recovery. A result of 0.1 µg/L was used to calculate a 50.0% recovery. The correct percent recovery is zero. Although there are no acceptance criteria for the CRA standard, a zero percent recovery indicates a problem with the mercury analysis near the detection limit.

C. The following results are considered usable for limited purposes because of a problem with the ICP serial dilution. The results are considered estimates and are flagged "J" in Table 1A.

- Aluminum and iron in all of the samples

The percent difference of the ICP serial dilution analysis of sample number MYH646 did not meet the <10% criteria for the analytes shown below.

Analyte	MYH646 % Difference
Aluminum	13.3
Iron	11.4

The results reported for aluminum and iron in all of the samples are considered quantitatively questionable. Chemical and physical interferences may exist due to the sample matrix.

D. The following results are considered usable for limited purposes because of accuracy problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Arsenic in sample MYH643
- Selenium in samples MYH643, MYH645 and the Lab Blank

Arsenic and selenium were analyzed by the Graphite Furnace Atomic Absorption (GFAA) technique, which requires that a post-digest analytical spike be performed for each sample to establish the accuracy of the individual analytical determination. The post-digestion spike recovery result for arsenic and selenium in the samples listed above did not meet the 85-115% criteria for accuracy as listed below. The possible percent bias for each analyte is also presented below.

Analyte	Sample #	% Recovery	% Bias
Arsenic	MYH643	82.3	-17.7
Selenium	MYH643	82.0	-18.0
	MYH645	82.0	-18.0
	Lab Blank	80.0	-20.0

The results reported for arsenic sample MYH643 and selenium in MYH643, MYH645 and the Lab Blank may be biased low and false negatives may exist.

According to page E-25 of the 3/90 statement of Work (SOW), if the preparation blank analytical spike is out of control (85-115%), the spiking solution must be verified by respiking and rerunning the preparation blank once. If the preparation blank analytical spike recovery is still out of control, correct the problem and reanalyze all analytical samples associated with that blank. The preparation blank was not respiked and rerun for the selenium analysis; therefore, it could not be determined if corrective action and reanalysis were needed.

An analytical spike was not performed in the analysis of the laboratory duplicate sample for arsenic, lead, selenium, and thallium. This analytical deficiency is not expected to affect the results.

E. Results for GFAA analytical spikes were incorrectly calculated. Sample results < IDL should be treated as "0". The laboratory calculated results < IDL as real numbers with an effect of increasing the percent recovery for negative results or decreasing the percent recovery for results greater than zero but < IDL. For this report, all results were recalculated. Comments were made based on the recalculated results.

F. Due to limited information concerning holding time criteria for soil samples, the 40 CFR 136 holding time criteria for water samples is applied to the soil analyses. The 40 CFR 136 technical holding times were not exceeded for any of the samples. There were no holding time problems.

G. All of the other results are considered valid and usable for all purposes. All QC parameters, other than those discussed above, have been met and are considered acceptable.

ANALYTICAL RESULTS
TABLE 1A

Case No.: LV2838 Memo #05
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: May 12, 1992

Analysis Type: Low Concentration Soil Samples for RAS Metals

Concentration in mg/Kg

Sample Location / Sample I.D.	SMW04-01C MYH643			SMW04-02C MYH644			SMW05-01C MYH645			SMW05-03C MYH646			LAB BLANK			MDL			CRDL		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	9340	J	C	9280	J	C	6070	J	C	11500	J	C	10.0 U			10.0			40.0		
Antimony	6 4 U			6.8 U			6 4 U			6.8 U			5.6 U			5.6			12.0		
Arsenic	0.73 L	J	AD	1.5 L	J	A	0.87 L	J	A	2.6			0.26 U			0.26			2.0		
Barium	103			52.9			47.9			58.7			5.9 U			5.9			40.0		
Beryllium	0 34 L	J	A	0.36 L	J	A	0.25 L	J	A	0.46 L	J	A	0.14 U			0.14			1.0		
Cadmium	2 9			2.7			2.0			3.1			0.48 U			0.48			1.0		
Calcium	4890			3770			6640			5590			105 U			105			1000		
Chromium	9.7			15.7			9.8			20.2			0.60 U			0.60			2.0		
Cobalt	9.2 L	J	A	8.3 L	J	A	5.1 L	J	A	10.2 L	J	A	1.8 U			1.8			10.0		
Copper	15 7			11.2			10.0			19.6			0.74 U			0.74			5.0		
Iron	17900	J	C	14000	J	C	10900	J	C	17900	J	C	8.1 U			8.1			20.0		
Lead	3.9			2.9			4.7			4.2			0.20 U			0.20			0.60		
Magnesium	6800			5270			4710			6860			121 U			121			1000		
Manganese	279			218			254			321			0.67 L	J	A	0.48			3.0		
Mercury	0.11 U	J	B	0.12 U	J	B	0.11 U	J	B	0.12 U	J	B	0.10 U	J	B	0.10			0.10		
Nickel	7.8 L	J	A	11.3			9.8			15.7			2.5 U			2.4			8.0		
Potassium	3370			2740			1120 L	J	A	2900			149 U			149			1000		
Selenium	0 30 U	J	D	0.32 U			0.30 U	J	D	0.32 U			0 26 U	J	D	0.26			1.0		
Silver	0 91 U			0.96 U			0.91 U			0.96 U			0.80 U			0.80			2.0		
Sodium	315 L	J	A	187 L	J	A	224 L	J	A	230 L	J	A	90.8 U			90.8			1000		
Thallium	0.14 U			0.14 U			0.14 U			0.14 L	J	A	0.12 U			0.12			2.0		
Vanadium	35.2			28.0			16.5			32.6			1.7 U			1.7			10.0		
Zinc	41.8			36.8			27.9			44.2			2.6 U			2.6			4.0		
Percent Solids	87.6 %			82.9 %			87.5 %			82.8 %			—			—			—		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background
CRDL-Contract Required Detection Limit

TABLE 1B
DATA QUALIFIERS

NO QUALIFIER indicates that the data are acceptable both qualitatively and quantitatively.

U Indicates that the parameter is not detected above the concentration listed. (Usually the Instrument Detection Limit for waters and the Method Detection Limit for soils with a correction for percent solids).

L Indicates results which fall between the Instrument Detection Limit for waters or the Method Detection Limit for soils and the Contract Required Detection Limit. Results are considered estimates and are usable for limited purposes.

J Results are considered estimates and are usable for limited purposes. The results are qualitatively acceptable.

R Results are rejected and are unusable for any purposes.

TPO: [ ] ACTION [X] FYI Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #05 LABORATORY Region IX, Las Vegas

SDG NO. MYH643 DATA USER

SOW 3/90 REVIEW COMPLETION DATE May 12, 1992

NO. OF SAMPLES ____ WATER 4 SOIL ____ OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	ICP	AA	Hg	Cyanide
1. HOLDING TIMES	O	O	O	
2. INITIAL CALIBRATIONS	O	O	M	
3. CONTINUING CALIBRATIONS	O	O	O	
4. FIELD AND EQUIPMENT BLANKS	F	F	F	
5. LABORATORY BLANKS	O	O	O	
6. ICP INTERFERENCE CHECK SAMPLE (ICS)	O			
7. LABORATORY CONTROL SAMPLE (LCS)	O	O	O	
8. LABORATORY DUPLICATE ANALYSIS	O	O	O	
9. MATRIX SPIKE ANALYSIS	O	X	O	
10. METHOD OF STANDARD ADDITION (MSA)		O		
11. ICP SERIAL DILUTION	X			
12. SAMPLE VERIFICATION	O	O	O	
13. REGIONAL QC	F	F	F	
14. OVERALL ASSESSMENT	X	X	M	

O - No problems or minor problems that do not affect data usability.
X - No more than about 5% of the data points are qualified as either estimated or unusable.
M - More than about 5% of the data points are qualified as estimated.
Z - More than about 5% of the data points are qualified as unusable.
F - Not applicable.

TPO ACTION ITEMS: None.

AREAS OF CONCERN: An insufficient number of mercury calibration standards were analyzed. The GFAA spike recoveries were incorrectly calculated. The CRA standard for mercury was recalculated to a zero percent recovery. High and low CRDL % recoveries were obtained for As (131%) and Hg (0.0%). While there are no criteria established for CRDL recovery, a high recovery indicates positive bias and a low recovery may cause false negatives. Both of these problems indicate analytical uncertaintly near the detection limit.